

Appl. No. 09/980,960
Amdt. dated August 18, 2004
Reply to Office action of May 18, 2004

In the Claims:

Claims 10, 15-19, 21-23, 25-27 and 29-31 are amended herein.
Claims 14, 20, 24 and 28 are canceled. The remaining claims are not amended in this response.

1. (previously amended) An LC oscillator using an inductor element formed on a substrate, characterized in that the inductor element has two conductors formed in piles on the substrate being mutually insulated, and wherein one end of one conductor is connected to the opposite end of the other conductor, an upper layer of the conductors is used as an inductor conductor,

wherein one of said two conductors has an end that is near the substrate, and the end near the substrate is open.

2. (original) The LC oscillator according to claim 1, characterized in that the substrate is a semiconductor substrate, and components are formed on the substrate in which the inductor element is formed.

3. (original) The LC oscillator according to claim 1, characterized in that said two conductors have substantially the same shape.

4. (original) The LC oscillator according to claim 1, characterized in that said two conductors have long shapes, and

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one end of one conductor in a longitudinal direction is connected with one end of the other in the longitudinal direction.

5. (original) The LC oscillator according to claim 1, characterized in that said two conductors have circular shapes less than one turn, and one end of one conductor is connected with one end of the other.

6. (original) The LC oscillator according to claim 1, characterized in that said two conductors have spiral shapes each number of turns of which is one or more, and one end of one conductor is connected with one end of the other.

7. (original) The LC oscillator according to claim 1, characterized in that the two conductors are formed in substantially linear shapes, and one end of one conductor is connected with one end of the other.

8. (original) The LC oscillator according to claim 1, characterized in that the two conductors are formed in meander shapes, and one end of one conductor is connected with one end of the other.

9. (original) The LC oscillator according to claim 6, characterized in that an inner end of said one conductor is connected with an outer end of the other conductor.

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10. (currently amended) The LC oscillator according to claim 1, characterized by further comprising:

an inductance component of ~~the~~ one conductor that is an upper layer; and

a capacitance component between the two conductors.

11. (previously amended) An LC oscillator using an inductor element formed on a substrate, characterized in that the inductor element has two conductors formed in piles on the substrate being mutually insulated, and wherein both odd ends are mutually connected, and further, an upper layer of the conductors is used as an inductor conductor, said two conductors have circular shapes less than one turn, and one end of one conductor is connected with one end of the other,

wherein one of said two conductors has an end that is near the substrate, and the end near the substrate is open.

12. (previously amended) An LC oscillator using an inductor element formed on a substrate, characterized in that the inductor element has two conductors formed in piles on the substrate with being mutually insulated, and wherein both odd ends are mutually connected, and further, an upper layer of the conductors is used as an inductor conductor, the two conductors are formed in substantially linear shapes, and one end of one conductor is connected with one end of the other,

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wherein one of said two conductors has an end that is near the substrate, and the end near the substrate is open.

13. (previously amended) An LC oscillator using an inductor element formed on a substrate, characterized in that the inductor element has two conductors formed in piles on the substrate being mutually insulated, and wherein both odd ends are mutually connected, and further, an upper layer of the conductors is used as an inductor conductor, said two conductors have spiral shapes each number of turns of which is one or more, and one end of one conductor is connected with one end of the other, an inner end of said one conductor is connected with an outer end of the other conductor,

wherein one of said two conductors has an end that is near the substrate, and the end near the substrate is open.

14. (canceled)

15. (currently amended) The LC oscillator according to claim ~~14~~ 19, characterized in that said two conductors have spiral shapes less than one turn.

16. (currently amended) The LC oscillator according to claim ~~14~~ 19, characterized in that said two conductors have spiral shapes each number of turns of which is one or more.

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17. (currently amended) The LC oscillator according to claim ~~14~~ 19, wherein said passive element comprises a conductive element.

18. (currently amended) The LC oscillator according to claim ~~14~~ 17, wherein said conductive element comprises a wire.

19. (currently amended) ~~The LC oscillator according to claim 14,~~ An LC oscillator using an inductor element formed on a substrate, characterized in that the inductor element has two spiral shape conductors formed in piles on the substrate being mutually insulated, and wherein an outer end of one conductor is connected to a corresponding outer end of the other conductor via a passive element,

wherein one of said two conductors has an end that is near the substrate, and the end near the substrate is open.

20. (canceled)

21. (currently amended) The LC oscillator according to claim ~~20~~ 23, characterized in that said two conductors have spiral shapes less than one turn.

22. (currently amended) The LC oscillator according to claim ~~20~~ 23, characterized in that said two conductors have spiral shapes each number of turns of which is one or more.

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23. (currently amended) ~~The LC oscillator according to claim 20,~~ An LC oscillator using an inductor element formed on a substrate, characterized in that the inductor element has two spiral shape conductors formed in piles on the substrate being mutually insulated, and wherein an outer end of the one conductor most adjacent said substrate is connected to an inner end of the other conductor,

wherein an inner end of the conductor most adjacent the substrate is open.

24. (canceled)

25. (currently amended) ~~The LC oscillator according to claim 24,~~ An LC oscillator using an inductor element formed on a substrate, characterized in that the inductor element has two conductors formed in piles on the substrate being mutually insulated, wherein said conductors have outer and inner ends, and wherein an outer end of one conductor is connected to a corresponding outer end of the other conductor via a passive element,

wherein an inner end of the conductor most adjacent the substrate is open.

26. (currently amended) The LC oscillator according to claim 24 25, wherein characterized in that said two conductors have spiral shapes each number of turns of which is one or more.

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27. (currently amended) The LC oscillator according to claim 24 25, characterized in that the two conductors are formed in meander shapes.

28. (canceled)

29. (currently amended) ~~The LC oscillator according to claim 28,~~ An LC oscillator using an inductor element formed on a substrate, characterized in that the inductor element has two conductors formed in piles on the substrate being mutually insulated, wherein said conductors have an inner end and an outer end, and wherein an outer end of the one conductor most adjacent said substrate is connected to an inner end of the other conductor,

wherein an inner end of the conductor most adjacent the substrate is open.

30. (currently amended) The LC oscillator according to claim 28 29, wherein characterized in that said two conductors have spiral shapes each number of turns of which is one or more.

31. (currently amended) The LC oscillator according to claim 28 29, characterized in that the two conductors are formed in meander shapes.